briefly described as follows: Shell subcylindrical, smooth, vitreous and polished, yellowish white, variously banded with chestnut; spire short and completely glazed over; whorls 4½; aperture narrow, dilated, below; columella sinuous, obliquely truncate, with 4 fairly strong oblique plaits; outer lip thickened without; suture marked by a narrow white line.

Length 9 mm.; diam. max. 4.5 mm.; length of aperture 7 mm. I have selected as type the form with 3 broad chestnut bands on body whorl—the uppermost band being rather narrower than the other two—as this corresponds most nearly with the usual coloration of *Marg. albolineata* Orb.

M. varia Sow., quoted by Deshayes from Réunion, must of course have been a misidentification. According to von Martens it was in reality *M. lienardi* Jouss., but I should be inclined to suggest *M. sordida* Reeve. In Reeve's description of this last "triplicata" is an error for "quadriplicata," judging from the presumable type in the Brit. Mus.

ON SOME ILL-UNDERSTOOD OREOHELICES.

BY HENRY A. PILSBRY.

OREOHELIX HAYDENI UTAHENSIS (Hemphill).

This form has a somewhat complicated history. The first notice is contained in a letter from Mr. Henry Hemphill, quoted by Mr. Binney in "A Second Supplement to the fifth volume of the Terrestrial Air-breathing Mollusks of the United States," Bull. Mus. Comp. Zool. XIII, No. 2, p. 30 (Dec., 1886). The account reads:

"I then returned to Salt Lake City, and crossed the valley to the west, camping on the west side of a range called the Oquirrh Mountains. Here commenced a series of finds that was quite exciting and very interesting to me. At the foot of the mountain my attention was attracted to a pile of detached rock, usually a good place for snails. After a few moments' work among these stones I was rewarded by finding quite a number

[1] Conchyl. de l'Ile de Réunion, p. 136.

[2] Beiträge zur Meeresfauna....Mauritius, p. 258.

of specimens of the variety I call *Utahensis.* (See p. 33.) This has the form of *Hemphilli*, but is destitute of the revolving ridges of *Haydeni.* The specimens were all constant in sculpturing, but varied very much in size and somewhat in form."

According to labels sent out with specimens at the time, Mr. Hemphill considered *utahensis* to be a variety of *hemphilli* Nc., but this does not appear in the printed account.

On page 33 of the same work (Second Supplement to Vol. V, T. M.), Binney gives the following account :

"Var. Utahensis, Hemphill.

"For locality, see *ante* p. 30. This is a rough, coarse, carinated *strigosa*, figured in Terr. Moll., V, p. 158, fig. 66. The peristome is sometimes continuous by a heavy raised callus, connecting its terminations. It is sometimes smaller and more elevated."

It appears from both of these extracts that the *type locality* of var. *utahensis* is the Oquirrh Mountains, in Utah, west of Salt Lake City. The diagnosis of the form given in Hemphill's letter leaves much to be desired. Even with the type locality, the form could hardly be recognized with certainty without specimens from the author. Yet in the absence of any competing name for the same form, we may accept Hemphill's notes as a description, since they are accurate as far as they go.

Binney, while reiterating Hemphill's locality, introduced confusion by referring to fig. 66 of Terr. Moll. V (same cut was reprinted as fig. 154, in Man. Amer. Land Shells), and adding characters from the shell that cut represents. This fig. 66 was originally published in Land and Fresh-Water Shells of N. A., part I, p. 78, figs. 135, 137, with the note, "It is sometimes strongly carinated, and the peristome is sometimes made continuous by the heavy, raised callus connecting its extremities." At this time (1869) no shells were known from the Oquirrh Mountains. The figures in question were drawn from a shell from the Big Horn Mts., in northern central Wyoming, collected by the geologist F. V. Hayden. This shell was collected in quantity, and there are specimens from the same source (and also received through Binney) in the collections of the Academy of Natural Sciences, the National Museum, and the American

Museum of Natural History. While resembling the smoothest examples of var. *utahensis*, this shell from the Big Horn Mountains is certainly a distinct species from the Oquirrh shell. It is the species to be described below as *Oreohelix strigosa magnicornu.*

Var. *utahensis* Hemph. should stand, I believe, as *O. haydeni utahensis.* It has very much the shape of *O. hemphilli*, but differs by the *much less convex* whorls of the embryonic shell. It is typically without spiral sculpture on the last whorl, but some of Hemphill's specimens show widely spaced spiral beaded lines, making a transition to var. *gabbiana* Hemph. A typical specimen, without spirals on the last whorl, measures, alt. 10, diam. 16.5 mm. (No. 23051 A. N. S. P. collected by Hemphill).

On account of the variability of the Oquirrh shells, I have some doubt whether, with larger collections, it will be possible to recognize more than one subspecies of *O. haydeni* in that range, in which case I would select the name *O. h. oquirrhensis* to cover all. Mr. Hemphill recognized in the Oquirrh varieties *utahensis*, *oquirrhensis*, and *gabbiana*, also "typical *haydeni*," and on his labels he called some *H. hemphilli.* Until we have adequate collections it may be possible to define three races in the Oquirrh range, but certainly not five.

The synonymy of *Oreohelix haydeni utahensis* will stand thus : [*Patula strigosa* var.] *Utahensis* Hemphill, in Binney, Second Suppl. Terr. Moll. V., p. 30.

[*Patula strigosa*] var. *Utahensis* Hemphill Binney, t. c., p. 33 (locality, but not figure cited or description given) ; see Man. Conch. viii, p. 118, pl. 42, figs. 10, 11.

Binney's paragraph under "*Patula strigosa*, var. *Utahensis*, Hemphill" in the fourth Supplement, 1892, p. 173, is largely a repetition, and excepting for his reference to the Second Supplement, it belongs to *O. s. magnicornu.*

Oreohelix strigosa magnicornu, n. subsp.

The shell is solid, the first $3\frac{1}{2}$ whorls but slightly convex, pale brown with a faint darker spiral band (or none), the later whorls nearly white (the shell being more or less bleached).

Last whorl carinate in front, the carina weakening to an angle on the last ⅔ whorl, very weak near the outer lip; deeply descending in front. Sculpture of fine, low growth-lines on the early whorls, the last 1½ having coarse, irregular but low growth-lines. Aperture shortly oval, the peristome continuous as a short, raised ledge across the parietal wall.

Alt. 11, diam. 18 mm.; width of umbilicus 3.5 mm.

Big Horn Canyon, Big Horn Mts., Wyoming. Type and cotypes no. 1907 A. N. S. P., from the A. D. Brown collection.

Three lots of this species have been in the collection for many years, one of them collected by F. V. Hayden, the others probably from the same source, though the labels do not state the collector. They are certainly distinct from any of the named subspecies and forms.

Although now fully described for the first time, this form has been figured and noticed in several publications. The synonymy will stand thus:

Helix cooperi W. G. Binney, Land and Fresh-water Shells of N. A., I, 1869, p. 78, figs. 135, 137.

Patula cooperi W. G. B., Terr. Moll. Vol. V, 1878, p. 158, fig. 66.

Patula strigosa Gould, W. G. B., Man. Amer. Land Shells, 1885, p. 166, fig. 154.

[*Patula strigosa*] Var. *Utahensis* Hemphill, W. G. Binney, Second Suppl. Terr. Moll. Vol. V, 1886, p. 33 (exclusive of reference to p. 30).

Patula strigosa var. *Utahensis* Hemphill, W. G. Binney, Fourth Suppl. T. M. Vol. V, 1892, p. 173 (exclusive of reference to Second Suppl., p. 30).

These references all contain substantially the same descriptive matter, and the same figures. Both originated in the wo k of 1869, and were afterwards reprinted with a change of the specific name.

Oreohelix cooperi (W. G. B.)

It may be noted that the basal views in figs. 152 and 153, on page 166 of Manual Amer. Land Shells, were tranposed. The umbilical view of *O. cooperi*, fig. 152, was placed under fig. 153, which is a form of *O. strigosa depressa*, and vice versa. The same mistake appeared in Terr. Moll. V, p. 158, figs. 64, 65.